

REMARKS

Reconsideration of the above-identified application in view of the amendments above and the remarks following is respectfully requested.

Claims 1-45 are in this case. Claims 9-11, 18-21, 26-31, 33-36 and 45 were withdrawn under a restriction requirement as drawn to a non-elected invention. Claims 1-2, 7-8, 14 and 37-40 have been rejected. Claims 1, 14 and 37 have now been amended.

New Matter

The Examiner states that claims 1 and 37 contain new matter which was not described in the specification and thus are rejected under 35 U.S.C. § 112, First Paragraph. Applicant has amended these claims to cancel the term "uniformly" as suggested by the Examiner.

35 U.S.C. § 112, Second Paragraph, Rejections

The Examiner has rejected claims 1-2, 7-8 and 37-40 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Claims 1, 14 and 37 have now been amended per Examiners suggestions.

35 U.S.C. § 112, First Paragraph, Rejections

The Examiner has rejected claims 1, 7-8, 37-39 under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

The Examiner's rejections are respectfully traversed. Claims 1, 14 and 37 have now been amended.

In particular, the Examiner points out that while the specification is enabling for mutant miniature plants made with *L. esculentum* and commercial *L. esculentum* plants made with said miniature mutant plants it does not provide reasonable enablement for any plant species or cultivar other than *L. esculentum*.

The present invention relates to the use of mutagenized miniature plants for screening and identifying commercially important traits which can be bred into sexually compatible plants which are preferably utilized in commercial agriculture.

Since the present invention relates to methodology which utilizes miniature plants, it is in practice, limited to those plants species having miniature varieties.

Numerous miniature plant varieties are known and available to the ordinary skilled artisan. For example, seeds of miniature fruit tree varieties such as Stark's New Colonnade, Royal Gala and Jon-a-Red apples; GoldenGlo apricots, HoneyGlo and Miller's Garden Beauty nectarines as well as Garden Gold peaches are commercially available through numerous seed suppliers.

For description of additional miniature plant varieties, please see,
 ✓ <http://www.redsword.com/dollhouse/ddkilmon/plant.htm>;
 ✓ <http://www.gardenforum.com/yourgarden.html>;
<http://www.boldweb.com/greenweb/babyvege.html>;
<http://www.oldhouseweb.net/gardening/garden/03900099.shtml>;
<http://www.hhydro.com/news-01-01-01.htm>; "Miniature Vegetables" by Gurney's Seed and Nursery Co. and Gardening with the New Small Plants by Oliver E. Allen published March 1987 by Houghton Mifflin Company.

All of the above varieties fulfill the criteria of claim 1 section (a), namely, they are of reduced size in comparison to a commercial plant of the same species, they mature to produce viable seeds tubers or fruit, they can be planted at densities much higher than commercial plants of the same species

and each can be crossed with its respective commercial plant (non-miniature) variety.

Utilization of such miniature plant varieties within the context of the present methodology is well within the capabilities of the ordinarily skilled artisan.

Thus, In conclusion, Applicant would like to reiterate that since numerous miniature plant varieties are well known in the art or can be newly generated, the instant specification provides sufficient guidance for one of ordinary skill in the art to practice the present invention as claimed.

In view of the above arguments, Applicant believes to have overcome the 35 U.S.C. § 112, first paragraph, rejections.

35 U.S.C. § 102/103 Rejections

The Examiner has rejected claim 14 under 35 U.S.C. § 102(b) as being anticipated, or in the alternative under 35 U.S.C. § 103(a) as obvious over Scott et al.

The Examiner's rejections are respectfully traversed. Claims 14 has now been amended.

The plants described by Scott et al can in theory contain one additional mutation produced by spontaneous mutation or somatoclonal variation induced by tissue culture. However, since the prior art does not suggest large scale mutagenesis of such plants for the purpose of screening for commercially important mutations, Scott et al. would not have been motivated to identify and collect miniature tomato plants into a population of plants, wherein each miniature tomato plant of the population carries in a genome of its cells a different mutation.

Since the claimed subject matter of claim 14 is in fact a population of plants in which each plant carries a different mutation, and since Scott et al does not suggest construction of such a mutagenized population for the purpose

of screening for commercially important mutations, it is Applicant's strong opinion that the population of mutagenized plants of claim 14 is neither anticipated nor is it rendered obvious by the teachings of Scott et al.

In view of the above amendments and remarks it is respectfully submitted that claims 1, 2, 7-8, 14 and 37-40 are now in condition for allowance. Prompt notice of allowance is respectfully and earnestly solicited.

Respectfully submitted,



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Encl.:

One month extension fee; and

VERSION WITH MARKING TO SHOW CHANGES MADE

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In the claims:

1. (Twice Amended) A method of generating a mutant miniature plant having a desired trait, the method comprising:

- (a) ~~utilizing~~ providing a population of miniature plants having the following characteristics: (i) ~~uniformly~~-reduced size in comparison to a commercial plant of the same species; (ii) ~~maturation~~ mature to produce viable seeds or tubers at a plant density of at least ten-fold higher than standard growth conditions used for a commercial plant of the same species; and (iii) ~~capability of being~~ can be crossed with a commercial plant of the same species;
- (b) treating said miniature plants with a mutation-inducing agent to produce a mutant miniature plant population; and
- (c) selecting a mutant miniature plant having the desired trait from said mutant miniature plant population.

14. (Twice Amended) A mutant miniature tomato plant population wherein each miniature tomato plant of said miniature tomato plant population carries in a genome of its cells a ~~distinct~~ different mutation, wherein said mutation is induced by an agent selected from the group consisting of a chemical mutagen, ~~or~~ and irradiation.

37. (Twice Amended) A method of producing a commercial plant with a desired trait, the method comprising:

- (a) ~~utilizing~~ providing a population of miniature plants having the following characteristics: (i) ~~uniformly~~-reduced size in comparison

to a commercial plant of the same species; (ii) ~~maturation~~mature to produce viable seeds or tubers at a plant density of at least ten-fold higher than standard growth conditions used for a commercial plant of the same species; and (iii) ~~capability of being~~can be crossed with a commercial plant of the same species;

- (b) treating said miniature plants with a mutation-inducing agent to produce a mutant miniature plant population;
- (c) selecting a mutant miniature plant having the desired trait from said mutant miniature plant population;
- (d) crossing said mutant miniature plant selected in step (c) with a commercial plant of the same species; and
- (e) selecting progeny which phenotypically resemble the commercial parent plant and express the desired trait, thereby producing a commercial plant with the desired trait.